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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Leonard et al.

Examiner: David A. Redding

Serial No.: 08/986,552

Group art Unit: 1744

Filed: December 8, 1997

Atty. File No. 31399 070050.0802

For: RECOVERY OF FETAL CELLS FROM MATERNAL  
BLOOD USING CHAOTIC ADVECTION

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JUL 08 2004

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**AMENDMENT**

I hereby certify that this paper is being deposited with the  
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Lisa B. Kole  
Attorney Name

35,225  
PTO Reg. No.

June 30, 2004  
Date Signed

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In response to the Official Action dated March 31, 2004, please consider  
the following amendments and remarks. Applicants submit herewith an Information  
Disclosure Statement, PTO 1449 form, and cited references.

## AMENDMENTS

Please cancel claims 7-18 without prejudice and amend the claims to read as follows:

1. (currently amended) A method for collecting fetal cells from a liquid which comprises a maternal blood component maternal blood sample, comprising the steps of:

disposing ~~the~~ a liquid comprising the maternal blood sample in a vessel having (i) an interior comprising a movable outer portion and a movable inner portion and (ii) a collector surface bearing a ligand specific for the fetal cells; and effecting a chaotic flow in the liquid by alternately moving the outer portion and inner portion of the vessel relative to each other so as to repeatedly switch from one laminar flow to another for a preselected duration during which the fetal cells are collected of time effective for binding fetal cells to the ligand on the collector surface.

2. (currently amended) The method according to claim 1, wherein the vessel comprises a cylindrical rotatable outer portion and a cylindrical rotatable inner portion whose axes of rotation are parallel and distinct rather than coincident from each other.

3. (original) The method according to claim 2, wherein the step of effecting the chaotic flow comprises rotating each of the outer and inner portions of the vessel in an alternating fashion.

4. (currently amended) The method according to claim 2, wherein the collector surface is disposed at the outer portion of the vessel.

5. (currently amended) The method according to claim 2, wherein the collector surface is disposed at the inner portion of the vessel.

6. (currently amended) The method according to claim 1, wherein the collector surface is disposed on at least one surface ~~dipped into~~ immersed in the liquid.

7 – 18. (cancelled)